

Taiji Evolution Cosmology: A Philosophical Framework of Monistic Cosmology

Abstract

This paper proposes and argues for a monistic cosmology — the "Taiji Evolution" (Taiji Yanhua). Its core claims are seven. (1) Taiji is the origin of the cosmos, giving rise to the two aspects of Yin and Yang, which are originally one body; this structure is isomorphic to quantum entanglement. (2) "Weave" determines physical law—gravity, space, time, and matter all emerge from the network. Different "weaves" correspond to universes with different laws of physics; all universes share a single space (the gravitational field) and appear to one another as dark matter. (3) Evolution (entropy increase) is the fundamental law of Taiji; time is the direction of evolution; hence spacetime cannot flow backward, and its endpoint is return to Taiji. (4) Black holes and dark matter may be two forms of one and the same phenomenon — the gravitational manifestation in our universe of the matter of other universes: diffuse, it is dark matter; condensed, it is a black hole. (5) Under extreme critical conditions, the gate of spacetime may open, and beings of other universes may cross through. (6) Inter-universal travel and interstellar travel are essentially the same, both hinging on interaction with dark matter. (7) Our universe is not a virtual reality: the objective world truly exists, choices are real, and intelligence therefore has meaning. We argue, step by step, that these claims are defensible within the frameworks of metaphysics and the philosophy of science; we indicate their relation to the existing literature (quantum entanglement, dark matter, the many-worlds interpretation, and the simulation hypothesis); and we provide entry points for falsification.

Keywords: Taiji Evolution; Monism; Quantum Entanglement; Dark Matter; Multiverse; Arrow of Time; Simulation Hypothesis

I. Introduction: Problem and Task

How did the cosmos originate? What are the natures of space and time? Do other universes exist? Is the world we perceive real? — Since human beings first began to ask, these questions have stood at the core of cosmology and metaphysics. In the modern era,

cosmology has become highly technical, yet its deepest philosophical problems have not disappeared: the equations of physics describe how the universe runs, but they do not answer why the universe is thus; still less do they settle the metaphysical status of the multiverse, the directionality of time, or the choice between realism and anti-realism.

The task of this paper is to propose a unified cosmological framework — the "Taiji Evolution" — and to argue that it is philosophically self-consistent and scientifically dialogable. The framework consists of seven interrelated claims, which address respectively: origin (Taiji and Yin-Yang); the metaphysics of the multiverse (weave and five-dimensional space); time (evolution and entropy increase); the unity of manifestation (black holes and dark matter); inter-universal manifestation (the gate of spacetime); travel (mirror and path); and reality (the refutation of the simulation hypothesis).

Methodologically, we employ three modes of argument. First, structural analogy: quantum entanglement serves as the modern counterpart of the unity of Yin and Yang — but it must be stressed that we claim structural isomorphism, not the stronger thesis that the ancients "predicted" modern physics. Second, metaphysical argument: from concepts such as evolution, choice, and reality, we derive conclusions that are necessary within the framework. Third, phenomenal record: first-person experience and ancient records are treated as phenomenal material to be explained, whose status is that of a "source of problems," not of "evidence."

The origin of this paper is an experience from the author's childhood: beneath a poplar tree on the Longyuan plateau, a herd of deer came down from the tree, grazed the grass by the author's feet, looked up and met his eyes, and then vanished. There are no deer in the author's homeland. The event was sealed away for more than thirty years — neither dream nor illusion. We do not take this experience as a premise of the argument; we take it as the starting point of the questioning. It is this questioning that leads to the framework below.

II. Taiji and Yin-Yang: A Monistic Theory of Origins

We use "Taiji" in the following sense: it is the origin of the cosmos, the "One," indivisible and irreducible. Taiji gives birth to Yin and Yang — yet Yin and Yang are not two entities but two faces of one body: turn it over and it is Yang; turn it back and it is Yin; it is always

the same coin. This is strict monism: there is no mind-matter dualism, no separation of god and human; everything comes from Taiji and everything returns to Taiji.

The modern counterpart of this claim is quantum entanglement. Once two particles are entangled, they no longer possess independent states — however far apart they are, the state of one "determines" the state of the other. The structure of quantum entanglement — "originally one body, divided into two states, mutually correlated" — is isomorphic to the structure of Yin and Yang — "originally one body, divided into two aspects, mutually responsive." A clarification is needed: we do not claim that the ancients "predicted" quantum mechanics (that would be an over-interpretation of history); we claim that the two share a structure. Just as mathematicians discovered non-Euclidean geometry before physicists, a structure can exist before experience and later be confirmed by it.

Possible objection: entanglement is a microscopic phenomenon — how can it support a cosmology? Response: we do not derive Yin-Yang from entanglement; we point out that they are isomorphic. The insight of Yin-Yang philosophy lies in the universal structure of "the unity of opposites"; entanglement is its microscopic manifestation, and macroscopic fields and particles (the virtual and the actual, the diffuse and the condensed) are another manifestation. The strength of monism lies precisely in running one structure through the microscopic and the macroscopic alike.

III. Weave and Multiverse: The Metaphysics of Five-Dimensional Space

Countless pairs of Yin and Yang interweave to form a net. We call each pair of entanglements a "knot," and the manner in which knots are linked a "weave." The core claim: the weave determines the laws of physics — gravity, space, time, and matter all emerge from the network. Different weaves, different forces, different particle properties, different field couplings — and hence different universes. As many ways as Yin and Yang have of interweaving, so many universes are possible. The weaves are numberless; the universes are numberless.

"Five-dimensional space" must here be precisely delimited. It is not a fifth spatial dimension; it is the "dimension of weave." We live in three spatial dimensions and one temporal dimension (four-dimensional spacetime); what determines which universe we are

in is the parameter of weave. Each weave corresponds to one universe; the collection of all weaves constitutes a "dimension" higher than any single universe. We accordingly claim: there is no dimension of existence higher than the dimension of weave — the fifth dimension is the ceiling.

Different universes share a single space — by "space" here we mean the gravitational field. Gravity is the only inter-universal interaction: because gravity is space itself, and space is shared. From this follows the most testable inference of the framework: the dark matter hypothesis — the dark matter we observe, about 27% of the matter of the universe (including its condensed form — black holes), is the matter of other universes. It overlaps with us in the same space; because electromagnetic fields do not communicate, it can be neither touched nor seen; only gravity communicates, and so its mass, through the region of overlap, manifests as dark matter.

Here we must draw a clear line against the "parallel universe." The many-worlds interpretation (Everett) holds that at every quantum measurement the universe splits into multiple branches and all possibilities are realized. We explicitly reject this: if all outcomes of all choices already existed, choice would lose its weight and intelligence its meaning — however one chose, another self would have chosen another path, and "choosing correctly" would become a fiction. Hence our universe has only one reality: choice is real; choose rightly and the other possibilities disappear. The "other universes" of this paper are neighboring universes sharing a space, not branches split off from this universe — these are fundamentally different metaphysical claims.

IV. Evolution and Time: The Argument for Directionality

The fundamental law of Taiji is evolution, and the direction of evolution is from order to disorder — this is the cosmological formulation of the second law of thermodynamics: entropy increase is irreversible. We claim: time is not an external ruler; time is the direction in which evolution advances. Evolution moves only forward and never turns back — hence time is one-directional and cannot flow backward. Three spatial dimensions plus the direction of evolution constitute four-dimensional spacetime.

This claim has three philosophical implications. First, travel to the past is impossible — not "technically infeasible," but "metaphysically forbidden": reversing entropy would be the negation of evolution, the self-negation of Taiji. Second, the expansion of the universe is the spatial expression of evolution — the field moves from dense to tenuous, the knots of the net recede from one another — from order to disorder and from dense to tenuous are two faces of one process.

Possible objection: do quantum processes violate entropy increase (e.g., conservation of information, time-symmetric microscopic equations)? Response: the time symmetry of microscopic equations and the irreversibility of macroscopic evolution are not contradictory — as statistical mechanics shows, directionality emerges at the macroscopic level. Our thesis "time = direction of evolution" is a macroscopic proposition; it does not appeal to the reversibility of microscopic processes.

V. Black Holes and Dark Matter: A Unified Theory of Manifestation

The neutrino has already proven that "not manifesting" does not equal "not existing." Dark matter and black holes may be two forms of one and the same phenomenon — the gravitational manifestation, in our universe, of the matter of other universes: diffuse, it is dark matter; condensed, it is a black hole. A black hole has no electromagnetic interaction and can be perceived only through gravity. Its manifestation may be either a compact object of another universe exceeding a threshold, or the gravitational convergence of the total mass of a galaxy of another universe — a supermassive black hole may be precisely the entire mass of a galaxy of another universe, manifesting here. This resolves two great puzzles: information is not lost — it merely crosses the boundary between weaves; and supermassive black holes need not have "had time to form" on the timeline of our universe.

VI. The Gate of Spacetime: Conditions of Manifestation and the Criticality Hypothesis

If other universes share our space yet do not couple with us, how is "manifestation" possible? We propose the gate of spacetime hypothesis: there exists some critical condition under which the weaves of two universes become temporarily compatible — when the gate

opens, beings of the neighboring realm may cross through; when it closes, they return to invisibility.

The phenomenal material is as follows. (i) A first-person record: in his childhood (circa 1996), the author saw, beneath a poplar tree on the Longyuan plateau, a herd of deer coming down from the tree; they grazed the grass by his feet, met his eyes, and vanished; there are no deer in his homeland. (ii) Ancient records: the Youming Lu (Records of the Hidden World) records that Liu Chen and Ruan Zhao of the Eastern Han entered the Tiantai Mountains to gather herbs, met two immortal maidens, and upon returning home after half a year found that seven generations had passed; the Shuyi Ji (Records of Strange Things) records that Wang Zhi of the Jin dynasty, while cutting wood in the mountains, watched two youths playing a game of go, and when the game had not yet ended his axe handle had already rotted — upon returning home, none of his contemporaries remained, and a hundred years had passed in the human world; and in the late Yuan and early Ming dynasties, Bai Jie, lost while offering sacrifice to his ancestors, was led by a yellow deer to a ruined tombstone, where it vanished. (iii) Modern phenomena: some mirages that cannot be explained by refraction, and certain UFO events, may be manifestations of neighboring landscapes. We state explicitly: the status of this material is "phenomena awaiting explanation"; its explanatory power is limited, and it serves only as motivation for the hypothesis, not as evidence.

VII. Travel and Mirror: The Unity of Inter-universal and Interstellar Travel

From the dark matter hypothesis the mirror thesis follows directly: the matter of our universe, in the eyes of observers of other universes, is likewise dark matter — mutual dark matter, mutual mirrors. They see us as we see them.

Hence inter-universal travel and interstellar travel are structurally unified. If the universes are interwoven into a three-dimensional net-like structure (a ball-of-yarn whole), then: between galaxies lie seas of light-years; between universes lie walls of laws — but all are within the same net. The so-called "distance" is merely a stretch of the yarn that runs far around; the so-called "isolation" is merely a knot whose weave does not communicate. To

cross galaxies one seeks a spatial shortcut(wormhole); to cross universes one seeks a weave shortcut (the gate of spacetime) — the essence is the same: within the shared net of space, find the nearest path and leap to the destination.

Corollary: The key to humanity's inter-universal and interstellar travel lies not in gazing at distant galaxies, but in studying the dark matter at our side — find this knot beside us, and we find the road to all distances.

VIII. Reality and Meaning: A Refutation of the Simulation Hypothesis

Finally, we address the reality of the universe. The simulation hypothesis (Bostrom, 2003) holds that our universe may be a computer simulation run by an advanced civilization. We propose the memory argument against it: the memory of any computer program is finite; the computational resources required to simulate a universe necessarily exceed the simulated universe itself — that is, "the simulator must be larger than the universe," which is impossible by definition. If a computer with infinite memory that never crashes existed — it would no longer be a "simulator"; it would be the universe itself. The universe is not simulated by some machine — the universe is that one, unique, self-sufficient machine: it needs no outside; it is everything.

Hence all matter of the objective world truly exists. Although the objective world may bring a sense of nothingness, yet one lives only once, and should bloom as brilliantly as the summer flower. This conclusion corroborates the earlier argument for the reality of choice: precisely because parallel universes do not exist, choice has weight; precisely because the universe is not a simulation, brilliance is not an illusion.

IX. Conclusion

This paper proposes the "Taiji Evolution" cosmology: Taiji gives birth to Yin and Yang (isomorphic to quantum entanglement); weave forms universes (sharing space, mutual dark matter); evolution sets time (direction of entropy increase, return to Taiji); of one origin, two forms (black holes and dark matter, the diffuse and the condensed); criticality opens its gate (extreme critical conditions exist); mirror opens its road (the unity of inter-universal

and interstellar travel); reality gives it meaning (refutation of simulation, reality of choice). The seven claims interlock into a self-consistent cosmological whole.

The limitations of this paper must be candidly acknowledged: this is a speculative work. Yet it is not beyond testing—observational data on black holes, statistical anomalies in dark-matter distributions, and long-term monitoring of spacetime-portal events all serve as entry points for falsification. The value of a philosophical framework lies not in being confirmed at once, but in whether it is self-consistent, whether it dialogues with science, and whether it raises testable questions. The Taiji Evolution achieves all three. Whether it is "correct" — that we leave to time, and to those who will one day stand by the gate.

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- [10] Shi Zi (*The Book of Master Shi*): "The four directions above and below are called yu (space); from antiquity to the present is called zhou (time)."

Appendix. The thought of this paper is governed by the poem The Song of Taiji: "The great wind rises over the Longyuan plateau, endless mountains. A divine deer grazes the grass by my feet; ten thousand years of spacetime reappear. Peach blossoms in splendor, apricot fairies dancing, they deeply invite me to wander in Kunlun. Two thousand li by high-speed rail, I take in the mountains and rivers of north and south. In former years, flying, I looked down upon the endless Qinling ranges. Having fulfilled the desires of beauty, I transform into Taiji and return."